Name:

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Geometry, Period

Due Date: Wed, 7 Jan 2015

**Geometry**

**Homework**



**Quadratics: Difference of Squares**

A difference of two squares is a type of quadratic equations of the form:

(*a + b*)(*a – b*) = *a*2 – *b*2

|  |  |
| --- | --- |
| Example: | *x*2 – 25 = 0 |
|  | *x*2 – 52 = 0 |
|  | (*x* + 5)(*x* – 5) = 0 |
|  |  |
|  | We get two values for *x*: |
|  |  |

Be careful! This method only works for difference of two squares and not for the sum of two squares: *a*2 + *b*2 ≠ (*a* + *b*)(*a* – *b*) *Taken from* [*http://www.onlinemathlearning.com/factoring-quadratic.html*](http://www.onlinemathlearning.com/factoring-quadratic.html)

**I. *Using the example above, answer the following questions:***

1. What is the solution set?
2. Test each solution to prove that they are correct: (Plug them back into the original equation.)

*Solution 1: Solution 2:*

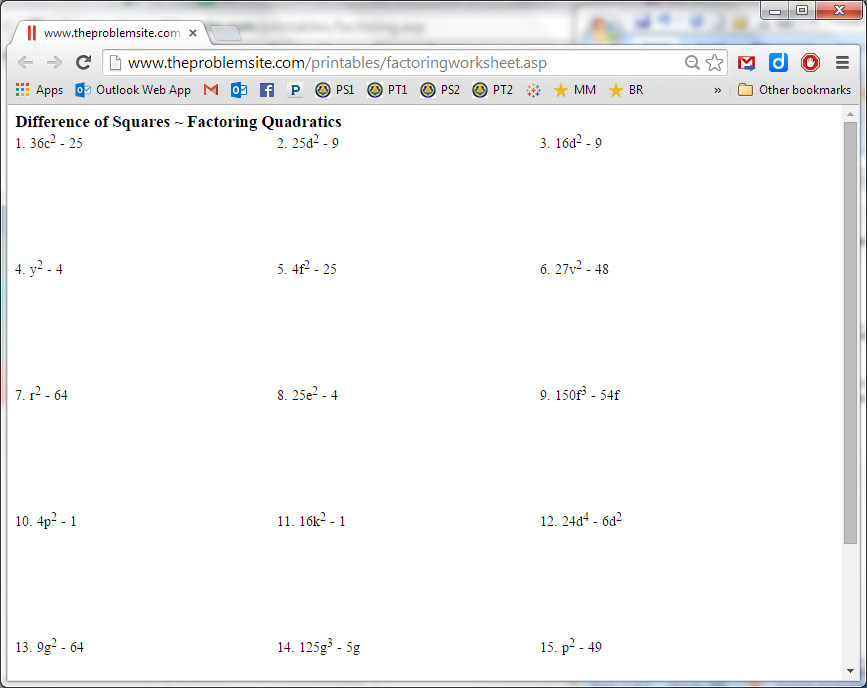
1. Rewrite in the standard quadratic form .
2. What is the *a* value? \_\_\_\_\_\_\_ What is the *b* value? \_\_\_\_\_\_\_ What is the *c* value? \_\_\_\_\_\_\_
3. What is the sum of the solutions?

**II. FOILing & comparing quadratics**

|  |  |  |
| --- | --- | --- |
| **Squared sum** | **Squared difference** | **Difference of squares** |
|  |  |  |

**What patterns do you notice, and what conclusions can you draw from your work above?**

**III. Difference of Two Squares: Find the solutions to these problems**



**IV. Given that , Josh determines that the solution set is . Is he right or wrong?**

*If right, prove it (not just by showing work to get the answer, but also by testing it.). If wrong, explain how you know it is wrong (not just by showing the correct work, but by testing it), then show the mistake and correction.*